SOV/137-59-2-4763

Color Reactions for Distinguishing Lanthanum From Cerium

Determination of 3-25 γ/cc Ce³⁺ is achieved with $\leq 10^{\circ}/o$ error.

A. M

Card 2/2

SOV/137-59-2-4854

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 2, p 355 (USSR)

AUTHORS: Korenman, I. M., Frum, F. S., Ryzhkova, L. V.

TITLE: Derivatives of Chromotropic Acid as Reagents for Titanium (Proiz-

vodnyye khromotropovoy kisloty kak reaktivy na titan)

PERIODICAL: Uch. zap. Gor'kovsk. un-ta, 1958, Nr 32, pp 113-117

ABSTRACT: Bibliographic entry

Card 1/1

USCOMM-DC-60,889

A ALMONIA TIPLA	.m			
ESSION NK: ARSUU9904	UR/0081/65/000	0/004/G024/G024		
RCE: Ref. zh. Khimiya, Abs. 4G153		24	•	
THOR: Frum, F. S.; Kotel'nikova, G. I. THE: Determination of iodide trace impurities	in sulfur	B.		
TED SOURCE: Sb. Peredovyye metody khim. tekhi -Donu, Rostovsk. un-t, 1964, 333-335	nol. i kontrolya p			
ANSLATION: A method is proposed for detectin sulfur. The method is based on the catalytication of AsO ₃ ³⁻ by CE(4+). Cl and Br do not not comparatively large quantities of Os, Honor reaction, but these elements are seldom as ensitivity of the method is 10 ⁻⁵ y/ml of I.	g trace quantities c effect of iodine not interfere with lg and Ag also cate esociated with iod	s (21.10 ⁻⁸ %) of I e on the oxidation the determination alyze this oxida- ine in sulfur. The		
ensitivity of the method is 10 ° \(\gamma \) mely pulverized sulfur is strongly agitated f	for 1-2 hours in 20	ome of doubly dis-		
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sapect	to a Celsou.	mal soluti	on of KaCr	207 and 5.5 mc	, of water may	n the intensi	tv !	
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RUMANIA

TIMARIU, S., Dr, TASCENCO, Vl., Chemist, FRUK, M., Eng, and CALOTOIU, E., Eng of the Dobrogea Experimental Station (Statiunea Experimentala Dobrogea).

"Preliminary Investigations on the Value of Black Sea Algae and Their Use in the Feeding of Animals and Birds."

Bucharest, Revista de Zootehnie si Medicina Veterinara, Vol 13, No 10, Oct 65, pp 23-29.

Abstract [Authors' English summary modified]: The algae Phylophora Brodiaei, widely available in the Black Sea coastal waters, may be preserved in the form of flour, or pickled as a mixture of 65% ground algae, 35% rolled corn and 2.5% molasses solution (7 liters per 100 kilograms of algae). In this case the protein contents of the mixture is similar to that of peas, except that the algae contain fewer non-nitrogenous extraction substances (28.6%) and more mineral salts (38.69%). The nutritive value of algae flour is 0.320 Nutritive Units and 85 g A.D. [unidentified] while that of the mixture with corn and molasses is 0.365 Nutritive Units and 19 g A.D.

Includes 2 tables and 3 references, of which 1 Western and 2 Russian.

1/1

FRUMAR, M.

Om the luminescence of cadmium iodide activated with lead (II) iodide. Coll Cz Chem 29 no. 3:672-679 Mr '64.

1. Institute of General and Inorganic Chemsitry, Higher School of Chemical Technology, Pardubice.

ORIENKO, Yu.M., doktor med. nauk (Khar'kov, ul. Petrovskogo, d.6/8, kv.15); FRUMAN, Yu.Ya.

Acute cholecystitis in aged and senile persons. Vest. khir. 89 no.10: 125-127 0 162. (MIRA 17:10)

1. Iz kliniki obshchey khirurgii (zav. - doktor med. nauk Yu.M. Orlenko) lechebnogo fakul'teta Khar'kovskogo meditsinskogo instituta (rektor - dotsent B.A. Zadorozhnyy) na baze ll-y Khar'kovskoy gorodskoy klinicheskoy bol'nitsy (glavnyy vrach - Ye.D. Guzhel).

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000513820003-9"

FRUM-KETKOV, R. L. Cand Phys-Math Sci -- (diss) "On the behavior of cycles during uninterrupted reflections of compacts and multiforms." Mos, 1957.

8 pp (Mos State Univ im M. V. Lomonosov. Mechanical Math Faculty), 100 copies (KL, 44-57, 99)

-7-

FRAM. KITHER, R.L.

20-2-14/62

AUTHOR:

Frum-Ketov, R.L.

TITLE:

On the Behavior of Cycles in Continuous Mapping of Compacts (O povedenii tsiklov pri nepreryvnykh otobrazheniyakh kompaktov)

PERIODICAL:

Doklady Akademii Nauk SSSR, 1957, Vol. 115, Nr 2, pp. 249 - 252 (USSR)

ABSTRACT:

 \mathbf{M}^n and \mathbf{M}^n_1 be two n-dimensional closed orientable manifolds. When f is a continuous representation of \mathbf{M}^n on \mathbf{M}^n with the degree zero, the n-dimensional main cycle of the manifold \mathbf{M}^n is represented on zero. This applies especially to the representation of \mathbf{M}^n on the n-dimensional Euclidean space. P.S. Aleksandrov posed the following problem: It may be proved that in the case of any $k(0 \leqslant k \leqslant n-1)$ in \mathbf{M}^n an essential k-dimensional cycle \mathbf{z}^k exists which represents itself on zero. The present paper gives a positive answer to this problem in a more general formulation. The group of rational numbers is here chosen as group of the coefficients. First the conceptions "essential cycle" and "essential carrier" are defined. The author shows the following: The k-dimensional essential cycle \mathbf{z}^k is represented with the aid of f on zero, when a certain es-

Card 1/2

20-2-14/62

On the Behavor of Cycles in Continuous Mapping of Compacts

sential carrier Φ of the cycle z^k is represented as follows: either onto a set that does not contain any k-dimensional cycles different from zero or onto the k-dimensional criented manifold M^k . In this connection applies $f(z^k) \sim 0$ in M^k .

The author gives three comprehensive theorems and partially also

their proofs. There is 1 Slavic reference.

ASSOCIATION: Moscow State University imeni M.V. Lomonosov

(Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova)

PRESENTED: February 13, 1957, by P.S. Aleksandrov, Academician

SUBMITTED: February 13, 1957

AVAILABLE: Library of Congress

Card 2/2

AUTHOR: FRUM-KETKOV. R.L. 20-118-1-11/58 On the Behavior of the Cycles Which are not Homologous to TITLE: Zero Under Mapping of an n-Dimensional Manifold Into an n-Dimensional Euclidean Space (O povedenii tsiklov, ne gomologichnykh nulyu, pri otobrazhenii n - mernogo mnogoobraziya v n-mernoe yevklidovo prostranstvo) Doklady Akademii Nauk 1998, Vol 118, Nr 1, pp 42-44 (USSR) PERIODICAL: ABSTRACT: be an n-dimensional closed orientable manifold; R^n the n-dimensional Euclidean space; $\Delta^s(k)$ the s-dimensional Betti group of the complex K; $p^{s}(K)$ the rank of $\Delta^{s}(K)$; f a continuous mapping of Mn into Rn or into Mn; \S^s an s-dimensional homology class of \mathtt{M}^n different from zero. The statement "there exist cycles in this homology class which are mapped by f into zero" is assumed to mean that in \mathbb{R}^n (in \mathbb{M}^n) there exists a polyhedron L with the dimension \leq s so that for each $\epsilon > 0$ the set $f^{-1}(O(L, \epsilon))$ is the carrier of a cycle of $\xi^{\,s}$ and the image of this cycle in $\overline{O(L, \ell)}$ is homologous to zero. Let r_f^s denote the maxi-Card 1/3

On the Behavior of the Cycles Which are not Homologous to 20-118-1-11/58 Zero Under Mapping of an n-Dimensional Manifold Into an n-Dimensional Euclidean Space

mum number of independent s-dimensional homology classes with cycles which are mapped by f into zero. Let q_f^s be the rank of the subgroup $\Delta^s(f(\mathbb{N}^n))$, onto which $\Delta^s(\mathbb{N}^n)$ is mapped. Theorem: Let f be a continuous mapping of \mathbb{N}^n into \mathbb{R}^n or into \mathbb{N}^n of degree zero and let $p^s(\mathbb{N}^n) \neq 0$. Then it is

$$q_f^s + q_f^{n-s} \leqslant \frac{p^s(M^n) + p^{n-s}(M^n)}{2}$$

$$q_{\mathbf{f}}^{\mathbf{s}} \leqslant r_{\mathbf{f}}^{\mathbf{n-s}}$$
 , $q_{\mathbf{f}}^{\mathbf{n-s}} \leqslant r_{\mathbf{f}}^{\mathbf{s}}$

Let f be a continuous mapping of M^n into the polyhedron K. Let μ_f^s be the maximum number of such independent elements of the group $\Delta^s(M^n)$ that there exist carriers of cycles of this homology classes which are mapped by f onto polyhedra which contain no s-dimensional cycles different from zero. Let μ_f^s be the maximum number of the elements of $\Delta^s(M^n)$ for

Card 2/3

On the Behavior of the Cycles Which are not Homologous to 20-118-1-11/58 Zero Under Mapping of an n-Dimensional Manifold Into an n-Dimensional Euclidean Space

which there are cycle carriers for every $\xi>0$, the mappings of which pass over into a polyhedron by an ℓ -displacement.

Theorem: Let f be a continuous mapping of M^n into R^n or into M_1^n and $p^s(M^n) \neq 0$. Then it is

$$\mu_f^s + \overline{\mu}_f^{n-s} \rangle p^s(M^n)$$
.

2 Soviet and 1 foreign references are quoted.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova (Moscow State University imeni M.V. Lomonosov)

PRESENTED: June 27, 1957, by P.S. Aleksandrov, Academician

SUBMITTED: June 26, 1957

AVAILABLE: Library of Congress

Card 3/3

AUTHOR: Frum-Ketkov, R.L. SOV/20-122-3 7/=7 Homological Properties of the Inverse Images of Points for TTTLE Mappings of Manifolds Increasing the Dimension (Gomologicheskaya svoystva proobrazov tochek pri otobrazheniyakh mnogoobraziy povyshayushchikh razmernosti) PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 3, pp 349-35: (USSR) Let M^{n} denote a closed, orientable n-dimensional manifold ABSTRACT: p⁵(Mⁿ) the rank of the s-dimensional homology group of Mⁿ. The rational number field or the residual group mod m is assumed to serve as coefficient group. Theorem: Let f be a continuous mapping of the Mn onto the m-dimensional polyhedron K, m>n; the inverse images of all points from K are assumed to be acyclic in all dimensions < s . Then it is 2s < n-2. Theorem: Let f be monotonic, i.e. the inverse image of a connected set is assumed to be connected; let f map M3 onto Mm m > 3. In M^m there do not exist more than $p'(M^3)$ two-dimensional polyhedra so that each of them is essential carrier of a two-dimensional cycle and that for every point y of these polyhedra it holds: Card 1/2

Homological Properties of the Inverse Images of Points SOV/20-122-3 7/51 for Mappings of Manifolds Increasing the Dimension

 $H_1(f^{-1}(y)) = 0$. Furthermore the paper contains some introducing

considerations on the results of Vietoris [Ref 1] Begle [Ref 2,3], Dyer [Ref 4] and Keldysh [Ref 5] and a further closely related theorem.

There are 5 references, 1 of which is Soviet, 1 German; and

3 are American.

PRESENTED: May 12, 1958, by P.S. Aleksandrov, Academician

SUBMITTED: April 29, 1958

Card 2/2

CIA-RDP86-00513R000513820003-9" APPROVED FOR RELEASE: 06/13/2000

FRUIT L. .i.

State diameter of function spaces. Usp. rat. nauk 20 r 4 176-186

Jan 165.

Some properties of function spaces of finite emoothness. Ibid.:181-186

(MIRA 18:8)

L 29100-66 EWT(d) IJP(c) ACC NR AP6019388 SOURCE CODE: UR/0042/65/020/004/0181/c186 AUTHOR: Frum-Ketkov, R. L. 18: ORG: none B TITLE: Properties of spaces of functions of finite smoothness SOURCE: Uspekhi matematicheskikh nauk, v. 20, no. 4, 1965, 181-186 TOPIC TAGS: Lipschitz condition, polynomial Lagrange equation ABSTRACT: The present article follows immediately upon another article by the author appearing in the same issue of the periodical. The present article follows immediately upon another This article shows that some metric characteristics considered in the first article for spaces of functions of finite smoothness differ no more than K times from the radius of the maximum ndimensional sphere contained in a space in which K does not depend on n: i.e., these quantities are weakly equivalent. The upper limit for n is evaluated. For a class of functions which are defined on a segment and whose derivative of order p satisfies the Lipschitz condition with a fixed constant, the author evaluates the accuracy of the following method of defining functions of this class by means of n real parameters: The determining segment is divided into n — 1 equal parts and the values of a function are taken at the points of division. The value of UDC: 5.17.5

ACC NR. AF6019388 a function at an arbitrary point is determined according to the corresponding localizable Lagrange interpolation polynomial of degree p + 1. It is found that any other method of defining functions of this class by means of n real parameters provides an accuracy no better than K1-fold, as compared with the above-indicated method, where K, is a constant not dependent on n. This is also true for the corresponding class of functions defined on an s-dimensional cube, s > 2. For the simplest classes s = 1, p 1, where accurate evaluation can easily be made, the aforementioned method is found to be the most accurate method of defining functions by means of n real parameters. Orig. art, has: 9 formulas. [IPRS] SUB CODE: 12 / SUBM DATE: 20Jul63 / ORIG REF: 004

FRUMAN, K.I., inzh. Dynamics of a tractor-drawn trenching unit with active working elements. Stroi. i dor. mash. 10 no.3:20-22 Mr '65. (IIIRA 18:5)

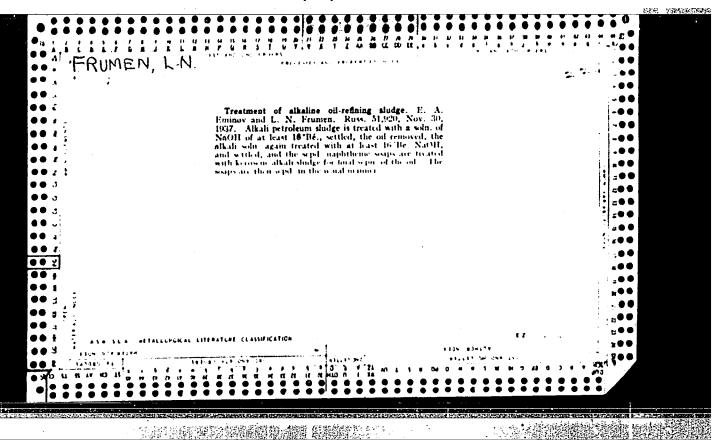
APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000513820003-9"

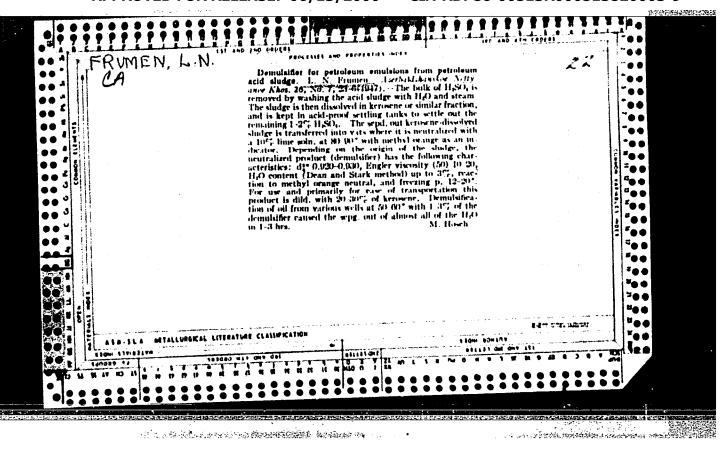
LORANCHENKO, N.G., inzh.; GUSEYNOV, M.Kh., inzh.; FRUMEN, B.V., inzh.

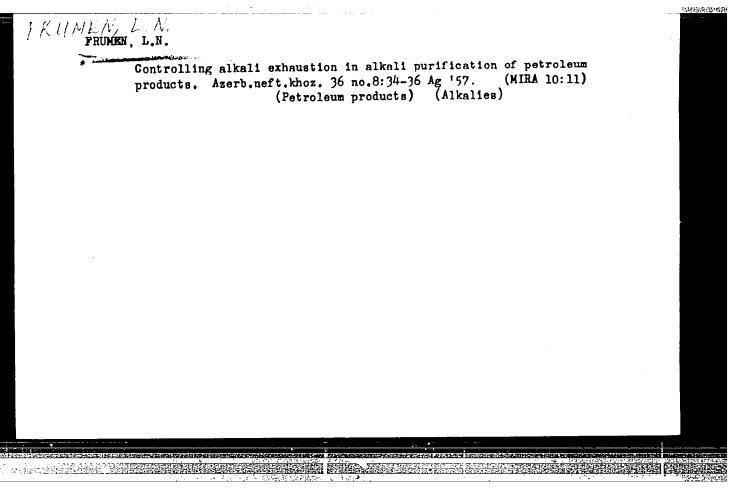
Experience in constructing and operating an open electric power plant. Elek.sta. 32 no.8:14-19 Ag '61.

(Electric power plants)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000513820003-9"







s/065/61/000/008/005/009 E030/E135

11.0140

Ismailov, R.G., and Frumen, L.N.

AUTHORS:

Inhibiting the formation of emulsions in the alkali

washing of petroleum products with the aid of TITLE:

electrolytes

PERIODICAL: Khimiya i tekhnologiya topliv i masel,

1961, No.8, pp. 28-31

This work was carried out under the auspices of the Azerbaydzhm Sovnarkhoz (Baku refinery). TEXT: Use is suggested as prophylactic agents, of electrolytes whose surface-active groups have signs equal and opposite to those of the alkali. Thus, in a hydrophilic system use polyvalent cations, and in a hydrophobic system use anions. The effectiveness of the method should increase strongly with valency. Care must be taken to avoid excess addition, otherwise emulsions of the opposite type may form. For laboratory tests, light diesel fuels were given alkaline wash with an insignificant amount of free alkali (0.2%) in the form of Na₂CO₃ and NaHCO₃; electrolytes added were sea water, cooking salt, sodium sulphate and magnesium sulphate. Card 1/3

Inhibiting the formation of

26521 s/065/61/000/008/005/009 E030/E135

The distillate and reagents were mixed for 1-2 minutes at 60-70 oc and then maintained at that temperature. The time taken for removal of alkali was taken as index of the electrolyte's effectiveness (see Table 1). MgSO4 (sea-water) is seen to be best, perhaps because of the divalent ion, or a synergistic effect due to the other ionic impurities in it. Hard well water, and extract from cationic filters from boiler units (containing Na+, Mg++ and Ca⁺⁺) are equally effective. Results have been verified on a full-scale continuous unit at 75-85 °C using 3-4% solution of NaOH in two or three stages, depending on the acidity of the fuel. There are 2 tables.

ASSOCIATION: Sovnarkhoz Az. SSR, Bak. NPZ

。 1. 数据数据数据

Card 2/ 3

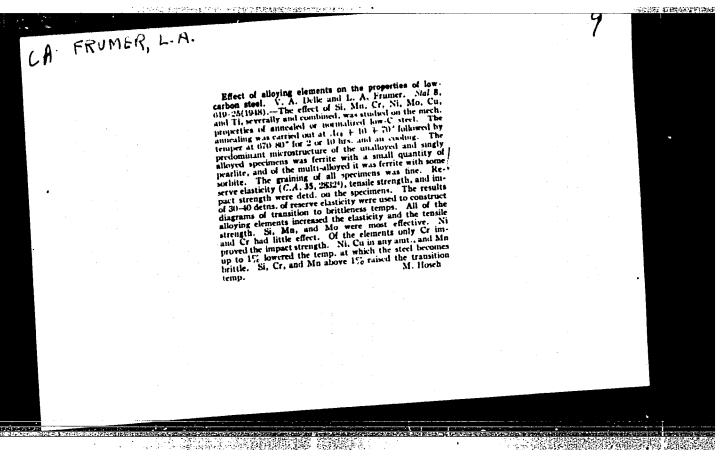
ISMAILOV, R.G.; FRUMEN, L.N.

Preventing emulsion formation in the alkali refining of petroleum products by means of electrolytes. Khim.i tekh.topl.i masel 6 no.8:28-31 Ag '61. (MIRA 14:8)

1. Sovnarkhoz Azerbaydzhanskcy SSR i Bakinskiy neftepererabatyvayushchiy zavod.
(Diesel fuels)

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000513820003-9



FRUMER, LA.

AUTHORS:

Fruner, L. A., Chistov, N. M.

32-2-51/60

TITLE:

A Device for the Determination of Potentials in Electrolytic Coatings (Pribor dlya opredeleniya napryazheniy v elektro-

liticheskikh pokrytiyakh)

PERIODICAL:

Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 2, pp. 244 - 245

(USSR)

ABSTRACT:

An investigation method was developed , which is based on a scheme alredy proposed in publications (reference 1). A replaceable spiral which was wound from a steel, brass or copper strip (thickness 0,25 - 0,5 mm) served as cathode. By this means many shortcomings of the hitherto applied cathode consisting of a metal strip were avoided. Because of the small distance of the spiral windings the electrolytic coating is formed uniformly and only at the outside of the spiral. The potential changes of the cathode which are caused by the depositing of the electrolytic substance during electrolysis are recorded by a pointer. From this value the mean

Card 1/2

A Device for the Determination of Potentials in Electrolytic Coatings

potential of the coating is calculated according to a formula. If an increase in measurement accuracy is desired, the spiral-constant K may be determined. The error limit of this method of determination is about 10 %. The curves of the dependence of the coating thickness of a chromium coating measured in μ (electrolyte CrO_3 - 300 g/l, H_2SO_4 - 4 g/l) on the mean potential are given. There are 2 figures, and 1 reference, which is Slavic.

AVAILABLE:

Library of Congress

1. Cathodes (Electrolytic cell)-Design

Card 2/2

TESLER, Pinkhus Abovich, kand.tekhn.mank, starshiy mauchnyy sotrudnik;

RUMES, Zakhar Yakovlevich, inzh.; KOTS, Isaak Davidovich, inzh.;

GODYNA, A.K., insh., red.

[Built-up roof with slabs made of cellular concrete] Sovmeshchemmaia krysha s paneliami is iacheistogo betoma; opyt tresta "Donbassenergestroi," Kauchno-issledovatel'skogo instituta betona i zhelezobetona i Eksperimental'no-konstrukterskogo biure Akademii stroitel'stva i arkhitektury SSSR. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1961. 16 p. (MIRA 14:11)

1. Mauchno-issledovatel'skiy institut betona i shelssobetona Akademii stroitel'stva i arkhitektury SSSR (for Tesler). 2. Machal'nik etdela stroitel'nykh konstruktsiy Mksperimental'no-konstruktorskogo byuro Akademii stroitel'stva i arkhitektury SSSR (for Frumes). 3. Glavnyy insh. tresta "Denbassenergostroy" (for Mets).

(Roofing, Concrete) (Lightweight concrete)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000513820003-9"

FRUNIN, A. B. 751

A CONTRACTOR OF THE CONTRACTOR

Vneshnyaya torgovlya stran narodnoy demokratii (Foreign trade for the countries of people's democracy, ed. by) M. F. Kovrizhnykh i A. B. Frumin. Moskva, Vneshtorigzdat, 1955.
319 p. tables.

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000513820003-9"

*Present and future in our cities" by B. Svetlichnii. Reviewed by G. Frumin. Zhil.-kom. khoz, 13 no.5:30 My "63.

(City planning) (Svetlichnii, B.)

(MIRA 16:8)

FRUMIN, G., kandidat tekhnicheskikh nauk.

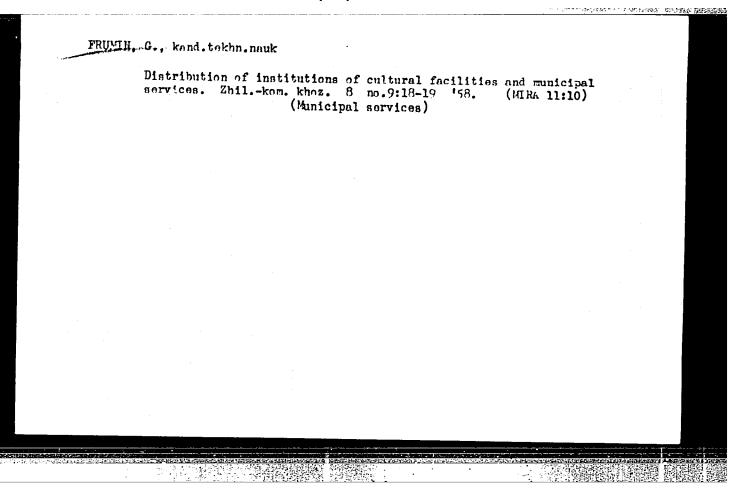
The second secon

Textbook on planning settlements ("Planning and building workers' settlements" by M.I.Kurennoi. Reviewed by G.Frumin). Gor.i sel'.stroi. no.4:26 Ap '57. (MLRA 10:5)

(Regional planning)

(Regional planning)
(M.I.Kurennoi)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000513820003-9"



New book on city building ("Building Soviet cities; architectural and planning problems. Reviewed by G.I. Frumin) Gor.khos. Mosk. 32 no.12:43 D '58. (MIRA 11:12)

(Gity planning)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000513820003-9"

FRUMIN, G., kand.tekhn.nauk

Some problems in mass housing construction. Zhil.stroi. no.ll: 22-24 '59.

(Gity planning)

FRUMIN, G., kand. tekhn. nauk

"The distribution of housing construction in cities." Reviewed by G. Frumin. Zhil. stroi. no.2:32 '62.

(MIRA 15:1)

(City planning)

FRUMIN, G.I., kand.tekhn.nauk

"Flanning and building habitable cities." Izv.ASiA no.3:127-128
(62. (MIRA 15:11)

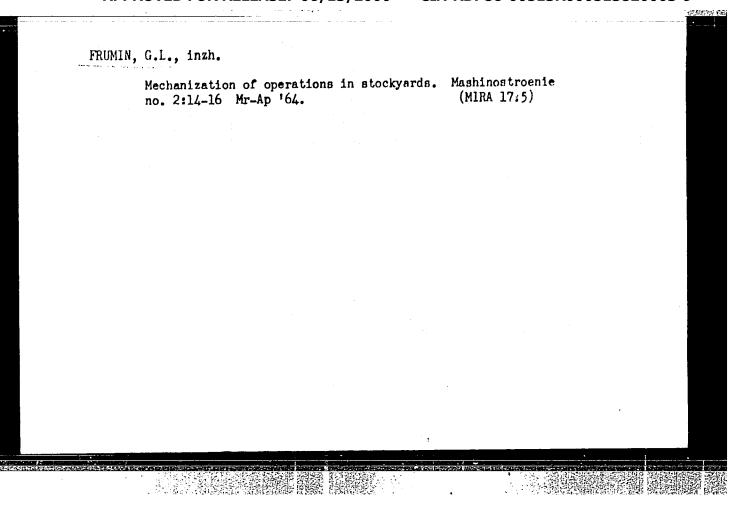
FRUMIN, G., starshiy nauchnyy sotrudnik

"Microdistricts in the planning and building of cities" by

P. I. Dubrovskii. Reviewed by G. Frumin. Zhil.-kom. khos. 12 no.3:31 Mr 162. (MIRA 15:10)

1. Akademiya stroitel'stva i arkhitektury Ukrainskoy SSR, Kiyev.

(City planning) (Dubrovskii, P. I.)



EHT(m)/SHP(K)/EHP(b)/EHX(d)/EHP(+)/EHP(t) PF.4 ACCESSION NR: AP4045458 S/0125/64/000/009/0036/004% AUTHOR: Nerodenko, H. H. (Engineer); Frumin, I. I. (Doctor of technical sciences) Hechanized hard facing of cold blanking dies TITLE: В SOURCE: Avtomaticheskaya svarka, no. 9, 1964, 36-41 TOPIC TAGS: hard facing, mechanized hard facing, hard facing electrode, sintered ribbon electrode, dispersion hardenable alloy electrode, blanking die hard facing, wear resistant blanking die ABSTRACT: A technique has been developed for production of sintered flat electrodes from powders of age-hardenable allows for mechanized hard facing of precision blanking carbon steel dies. Of several hardfacing alloys, which were developed and tested, an alloy of the K30H11 type, containing 0.03-0.047 C, 0.60-0.802 Hn, 0.2-0.52 Si, 17 to 19% No, and 28-32% Co and deposited with the AN-60 flux, was the hardest after aging. Hard facing with the K30H18 flat electrode produced a well-formed, sound, wear-resistant layer on a low-carbon steel-! plate. A continuous baad, 10-15 mm wide and 2-5 mm high, is readily Cord 1/2

L 11293-65 ACCESSION NR: AP4045458

2

formed in a single pass. The deposited metal has a hardness of 43 to 45 HRC which increases to 68—72 HRC after aging at 600C for 1 hr. This increase in hardness is caused by decomposition of a supersaturated solution, accompanied by the formation of highly dispersed particles of a solid solution of CoMo and Fa3Ho2 compounds. After aging, the dimensions of parts hard-faced with K30H18 alloy differed by less than 0.05% from the initial dimensions. In production tests, blanking dies hard-faced with the K30H18 alloy were 15—30 times as wear resistant as dies made of tool steels. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Institut elektrosvarki im. Ye. O. Patona AN UkrSSR (Electric Welding Institute, AN UkrSSR)

SUBMITTED: 15Mar64

ATD PRESS: 3104

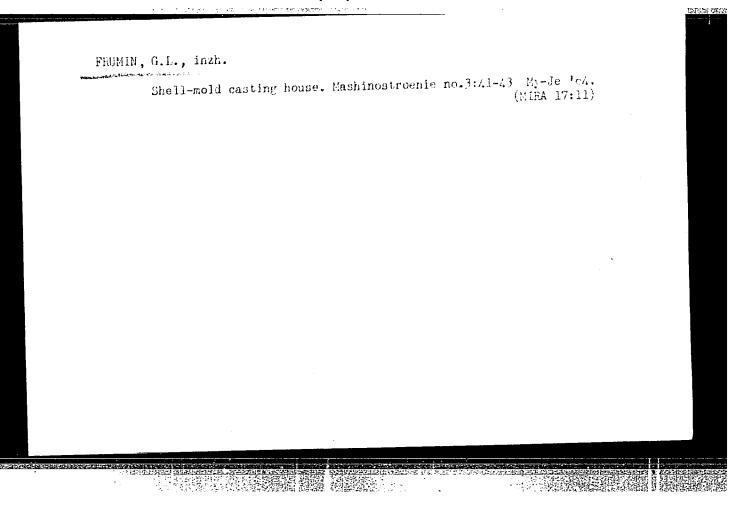
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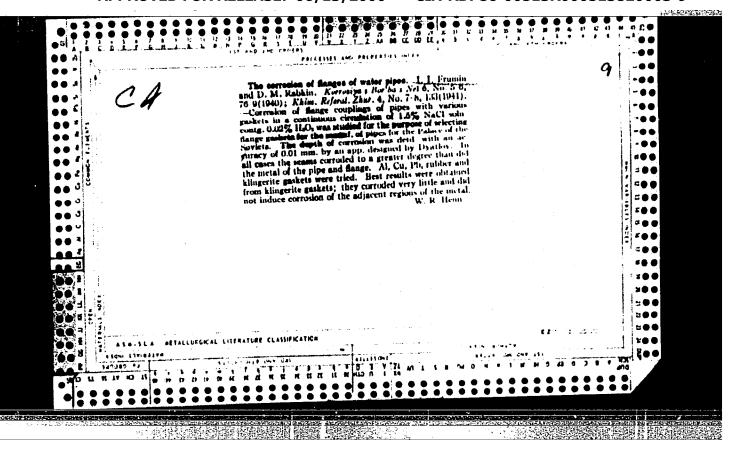
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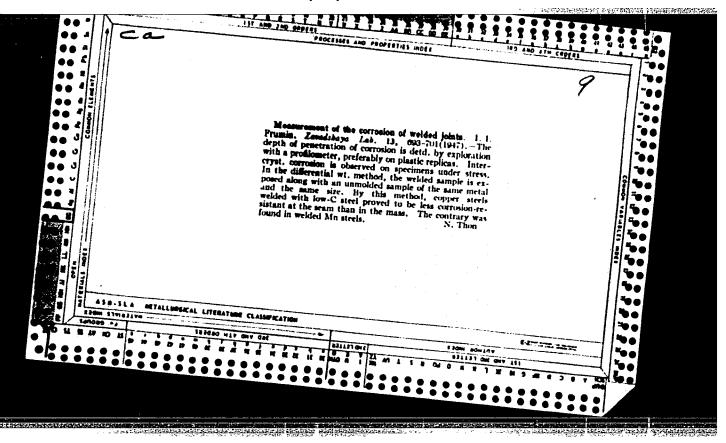
USSR/Welding - Strength Corrosion

Jun 1947

"Methods of Measuring the Corrosion of Welded Joints," I. I. Frumin, Institute of Arc-Welding of the Academy of Sciences, Ukrainian SSR, 9 pp

"Zavodskaya Laboratoriya" No 6

Discusses the peculiarities of corrosion of welded joints and the difficulties encountered in trying to measure the degree of corrosion. Discusses methods of measurement by permeation. Tests on intercrystallic corrosion. Differential - weight method.



FRULLE, I. I.

Frumin, I. I. "Automatic welding of SKhL2 steel", Trudy Vsesoyuz, konf-tsii po avtomat, svarke pod flyusom, 3-6 October 1947, Kiev, 1943, p. 116-24.

SO: U-3261, 10 April 53, (Letopis 'Zhurnal 'nykh Statey, No. 11, 1949).

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FRUMIN, I. I.

Frunin, I. I. and Rabkin, D. H. "On fluxes for the automatic welding of low-carbon steels", Trudy po avtomat. swarke pod flydsom (In-t elektrosverki im. Patona), Collection 3, 1948, p. 3-12.

SO: U-3261, 10 April 53, (Letopis 'Zhurnal 'nykh Statey, No. 11, 1949).

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000513820003-9"

	FRUMIN, I. I.	152126	USSR/Engineering - Welding (Contd) into the arc cavity, data of spectrum investigation of arc in presence of flux vapor, mechanism of pore formation, behavior of fluorine compounds during welding, and similar data. States conclusions. Includes 14 tables and 10 diagrams.	"Avtogen Delo" No 10 "Discusses determination of quantity and composition of gases evolved turing welding under flux, for dense and porous seams, influence of impurities in the metal and viscosity of molten flux on pore forma- tion, effect of supplementary introduction of gas 152726	"Formation of Pores in Welded Seams and the Influence of Flux Composition on Tendencies Toward Porosity," I. I. Frumin, Cand Tech Sci, I. V. Kirdo, Engr, V. V. Podgaetskiy, Engr, Inst of Elec Welding imeni Acad Ye. O. Paton, Acad Sci Ukrainian SSR, 11 pp	USSR/Engineering - Welding Oct 49
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FRUMIN, I. I. - "The production of pumiceous flux for automatic welding," Trudy po automat. swarke pod flyusom (In-t elektroswarki im Patona), Symposium L., 1949, p. 39-55, - Bibliog: 8 items

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh: Statey, No. 15, 1949)
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FRUMIN, I. I.

Frumin, I. I. "On air gramilation of flux for automatic welding", Trudy po avtomat. swarke pod flyusom (In-t elektroswarki im. Patona), Collection

SO: U-4392, 19 August 53, (Letopis 'Zhurnal 'nykh Statey, No 21, 1949).

5, 1949, p. 48-52.

FRUMIN. I. I., KIRIO, I. V., PODGAYETSKIY, V. V.

Inst. Electric Welding im. Ye. O. Patron, Ukrainian Acad. Sci., (-c1949-)

Cand. Technical Sci.

"The formation of pores in welded seems and the influence of flux composition on tendencies toward norosity," Avtogen, Delo, No. 10, 1949.

FRUMIN, I.I.

AID P - 857

Subject

: USSR/Engineering

Card 1/1

Pub. 11 - 3/13

Authors

Frumin, I. I., Pokhodnya, I. K. and Kirdo, I. V.

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T1tle

Bimetallic rotary cutter for drilling bits

Periodical: Avtom. svar., #4, 29-45, J1-Ag 1954

Abstract

: A new method of construction of cutters for drilling bits is described with an outline of successive processes from the initial preparation of the bit, welding of bimetallic armoring powders, tempering and fine shapeing. The author presents composition metallographic analysis, results of mechanical laboratory tests, and wearing characteristics during actual service. Four diagrams, 6 microphotographs, 10 photographs, 4 tables and 19 references, 15 Russian

(1938-1952).

Institutions: All-Union Scientific Research Inst. for Oil Well Drilling;

Institute of Electric Welding im E. O. Paton

Submitted

My 20, 1954

FRUMIN, I.I. Increasing the durability of rollers by weld deposition. Avtom. svar. 7 no.3:3-25 My-Je '54. 1. Institut elektrosvarki im. Ye.O.Patona Akademii nauk USSR. (Holle) Iron mills)) (Welding)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000513820003-9"

FTT Set Office Control of Control

BENUA, F.F., kandidat tekhnicheskikh nauk; VOL'PERT, G.D., inzhener.;
YKEL'YANDV, N.P., kandidat tekhnicheskikh nauk; KLEKOVKIN, G.P.
inzhener; KUZMAK, Ie.M., doktor te'hnicheskikh nauk, professor;
NILOVSKIY, I.A., laureat Stalinsky prenii;PANDV, B.N., inzhener;
POKHODNIA, I.K., inzhener; PRHUIN, I.I., kandidat tekhnicheskikh
nauk; FRUPIN, S.R., inzhener; ZVEGINISEVA, K.V., inzhener, redaktor; COLOVIN, S.Ta., inzhener; zdektor; MATVELEVA, L.S., redaktor;
SOKOLOVA, T.F., tekhnicheskiy redaktor.

[Automatic built-up welding with wear-resistant alloys] Avtomaticheskaia neplawka iznosoustoichivyni splavani. Moskva, Gos.
nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1955. 244 p.(MIRA 8:11)

(Slectric welding)

FRUMIN, I.I.; POKHODNYA, I.K.

Investigating the mean temperature of the submerged melt. Avtom. svar.8 no.4:13-30 J1-Ag'55. (MLRA 8:11)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki imeni Ye.O.Patona Akademii nauk USSR (Electric welding)

POKHODNYA, I.K.; FRUMIN, I.I.

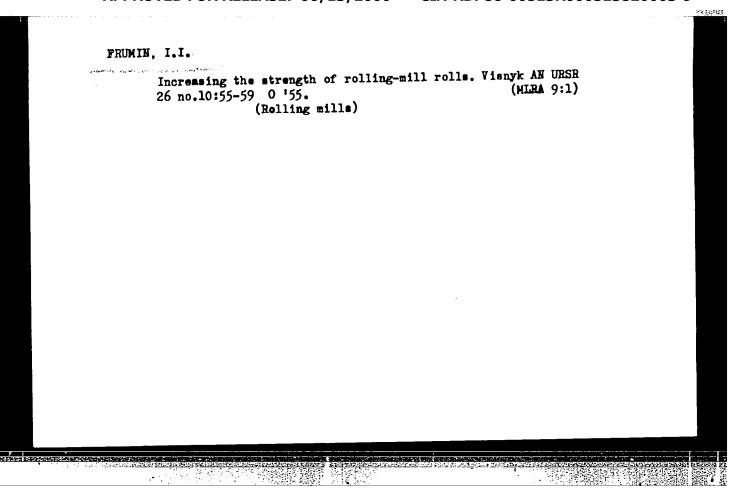
Flux temperature in the submerged arc process. Avtom. svar. 8 no.5:14-24 S-0 '55. (MLRA 9:1)

1.0rdena Trudovogo krasnogo snameni institut elektrosvarki imeni Ye.O.Patona AN USSR.

(Blectric welding) (Thermocouples)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000513820003-9"

TOTAL TANKS



FRUMIN. Isidor Il'ich; PETRICHENKO, Valentin Kuz'mich; PODGAYETSKIY, V.V., otvetstvennyy redaktor; ANDREYEV, S.P., tekhnicheskiy redaktor

[Automatic welding in hard facing steel rolled girders; a practical manual] Avtomaticheskaia naplavka stal'nykh prokatnykh valkov; prakticheskoe rukovodstvo. Khar'kov. Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 114 p. (MLRA 9:10) (Welding) (Girders)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000513820003-9"

SOV/137-57-11-21684

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 11, p 148 (USSR)

AUTHORS: Frumin, I.I., Pokhodnya, I.K.

TITLE: Automatic Hardfacing of Certain High-alloyed Steels (Avtomati-

cheskaya naplavka nekotorykh vysokolegirovannykh staley)

PERIODICAL: V sb.: Probl. dugovoy i kontakt. elektrosvarki. Kiyev-

Moscow, Mashgiz, 1956, pp 162-175

ABSTRACT: A description of methods for prevention of the formation of

pores, cracks, and slag inclusions in the process of hardfacing under flux of high-alloy steels by means of powdered welding rods (PWR); the technology of depositing a layer of die-type steel of the 3Kh2V8 and Kh12VF type by means of welding is described, together with the development of necessary fluxes. Gaseous H, N, and CO are the primary cause of porosity. The H must be chemically combined into compounds that are insoluble in molten metal (OH and HF). SiF4 is the main source of F. If the hardfacing operations are performed under low-silicon flux (LSF), the PWR are augmented with Na₂SiF₆. In order to

Card 1/3 prevent penetration of N into the molten metal, it is proposed

SOV/137-57-11-21684

Automatic Hardfacing of Certain High-alloyed Steels

that a gas medium be used in addition to the protective slag medium. Reducing the molten metal with the aid of Si, Ti, Mn, Cr, etc., precludes the formation of pores produced by the CO gas: Three types of cracks are described (hot and cold cracks, and cracks in the vicinity of the weld), reasons for their appearance are given, and methods for their prevention are outlined: Preliminary heating into a range above the martensite point of the parent metal; application of the LSF; leveling off the temperature at the end of hardfacing operations followed by uniform cooling of the components. Utilizing the steel Khl2 as an example, it is demonstrated that hot cracking may be avoided if the amount of liquid eutectic is increased (the C content is raised from 1.0-1.5% to 1.8-2.1%). The process of segregation of slag and metal in the bath is described; it is noted that Cr_2O_2 and V_2O_3 intensify the similarity between the slag lattice and the lattice of Fe δ , which results in an increased number of slag inclusions. Essential characteristics required in fluxes are listed, and chemical composition, technological properties, and fields of application of LSF's (AN-10, AN-22, AN-20, AN-30) are described. The technology of hardfacing an area with a layer of die-type steel Khl2VF employed in cold-stamping (2.0% C, 12.5% Cr, 1.0% W, 1.0% Mn) involves the following procedures and materials: Electrode rods employed, PP-Khl2VF (PP= powdered welding rods); preliminary heating of blanks Card 2/3

SOV/137-57-11-21684

Automatic Hardfacing of Certain High-alloyed Steels

300 mm long and 100 mm in diameter to a temperature of 400-450°C in an induction furnace operating on a current of industrial frequency; introduction of AN-30 flux; final cooling after hardfacing in the furnace. It is recommended that annealing operations follow an isothermal cycle. The technology of hardfacing, by means of depositing a layer of die-type steel K2V8 (0.35% C, 2.5% Cr, 8.5% W, and 0.3% V), employed for drop forging, on blanks with a diameter of 300 mm consists of the following procedures: Preliminary heating to 350-370°; hardfacing of blanks in 4-5 passes utilizing direct current with a reversed polarity (220-250 a, 25-28 v), the rate of welding being 35-45 m/hr; flux AN-20 is employed together with powdered welding rods 3.5 mm in diameter; after completion of the hardfacing operations the finished components are heated to a temperature of 370-400° and are then cooled in a heat-insulated box at a rate of 20°/sec. The authors point out that steels G13, R18, and R9 have been successfully employed for hardfacing of components.

V.B.

Card 3/3

Fromin, 1 J.

137-1957-12-24201

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 186 (USSR)

AUTHOR: Frumin, I.I.

TITLE: Increasing the Wear Resistance of Machine Parts by Means of Sur-

facing by Automatic welding. (Povysheniye

iznosostoykosti detaley mashin putem avtomaticheskoy naplavki)

PERIODICAL: V sb.: Povysheniye iznosostoykosti i sroka sluzhby mashin.

Kiyev-Moscow, Mashgiz, 1956, pp 322-328

ABSTRACT: In the process of increasing the wear resistance of machine

parts by building up their surfaces by welding the alloying components may be introduced into the welds by either of two methods: through flux a drawback of this method is a considerable fluctuation in the chemical composition of the built-up layer of metal (BLM), and through the welding wire which involves the employment of expensive and hard-to-find wire. An effective employment of expensive and hard-to-find wire.

tive solution is the employment of the "powdered" rod (PR) in conjunction with low-silicon fluxes of the AN-20 or AN-30 type containing no manganese. The technological peculiarities of

the automatic welding of a BLM of high-alloy steel by means

Card 1/4 of PR's are described: they involve the employment of low-silicon

137-1957-12-24201

Increasing the Wear Resistance of Machine Parts (cont.)

flux, which assists the process of branching out of the primary crystals, and favors a uniform distribution of the liquating additives; the absence in the flux of the oxidizing agents MnO and FeO ensures the easy segregation of the slag and does not impair the continuity of the 'surfacing process; flux AN-20 containing about 20 percent SiO₂, is used successfully to prevent the formation of pores, but it has the drawback of fluidity and of contaminating the BLM with Si; flux AN-30, containing 2-5 percent of Si, is devoid of the drawbacks of the AN-20 flux, but is rather inefficient in preventing the formation of pores; in order to eliminate the basic cause of pore formation, namely the liberation of H, sodium fenosilicate (Na2SiF6). . . [Transl. Note: the Russian original reads "Na2SF6" which is incorrect], is introduced into the core of the PR; at high temperatures the Na_2SiF_6 is decomposed and liberates SiF_4 , which then reacts with H to form HF which is not soluble in liquid steel; in order to prevent cracks, the pre-heat temperature must lie between 300-6000; for bodies of rotation 100 mm in diameter or more, it is recommended that induction hysteresis heating by means of industrial -frequency alternating current be used.

Card 2/4

137-1957-12-24201

Increasing the Wear Resistance of Machine Parts (cont.)

The technology of building up surfaces of rolls for hot-rolling welding is described as it is employed at metallurgimills by cal plants: the preliminary induction heating to a temperature of 350-400° is followed by welding with PR 3 Kh 2 V 8 which imparts the following chemical composition to the BLM (in percent): C 0.35, Cr 2.5, W 8.5, and V 0.5; the flux used is the AN-20 type. The characteristics of the welding installations are described and a computation of the economic effectiveness of the process is given. A technology for the manufacture of bimetallic cutting cones of drill bits is developed; following a preliminary heating to a temperature of 450-5000, the surface of the casehardened 12 Kh N2 or 18 Kh GT steel is covered, by means of welding with Kh 12 VF steel which contains (in percent): C 2.0, Cr 12, W 1.0, and V 0.5; the flux used in this process is of the AN-30 type. After annealing and machining, the tooth surface is reinforced with YES sistered and then tempered; this is accompanied by simultaneous carburization of the internal surfaces of the cone. Tests conducted in the stand have shown that the durability of cones manufactured in this manner surpasses that of the conventional cones by 6-7 times. Photographs of the PR in operation are shown, as well as photographs of thegrooved surface of

Card 3/4

Increasing the Wear Resistance of Machine Parts (cont.)

a worn out roll, and the sequence of operations in the manufacture of the bi-metal cones.

V. B.

1. Automatic welding-Applications 2. Hard surfacing-Applications

Card 4/4

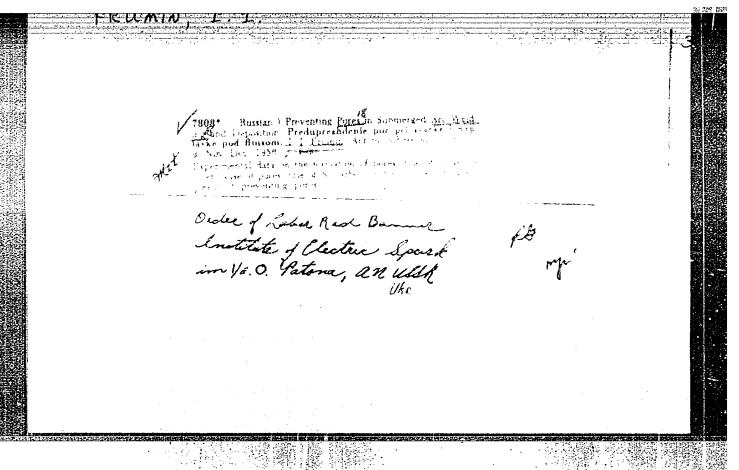
PERIODICAL ABSTRACTS

Sub.: USSR/Engineering

AID 4190 - P

FRUMIN, I. I., D. M. RABKIN, V. V. PODGAYETSKIY, I. K. POKHODNYA, and E. I. LEYNACHUK. NIZKOKREMNISTYYE FLYUSY DLYA AVTOMATICHESKOY SVARKI I NAPLAVKI (Low Silicic Fluxes in Automatic Welding and Hard Facing). Avtomaticheskaya svarka, no. 1, Ja/F 1956: 1-20.

A discussion of the application of various special fluxes with a low silicic content, like the AN-10, AN-20, AN-22 and AN-30, used in welding of alloyed steel to achieve better results and prevent formation of pores in welded seams. The authors present the chemical composition of built-up metal, formation of built-up metal and bead, structure of built up metals, and tendency for formation of crystallized flows, separation of clinker, etc. Thirteen tables, some macropictures, graph and sketch. Sixteen Russian references, 1946-1955.



SOV/137-58-7-14748

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 115 (USSR)

AUTHOR: Frumin, L. L.

TITLE: Increasing the Life of Steel Rolling-mill Rolls by Automatic

Facing (Povysheniye stoykosti stal'nykh prokatnykh valkov

posredstvom avtomaticheskoy naplavki)

PERIODICAL: Tr. Nauchno-tekhn. o-va chernoy metallurgii, 1956, Vol 10,

pp 176-192

ABSTRACT: An investigation is made of increasing the service lives of

rolls (R) by automatic facing (F). The backing of a bimetallic R should be of an inexpensive, strong, and tough metal (C or Cr steel), whereas the working surface should be made of a metal of maximum wear resistance (high-alloy steel). The wear resistance of the working surface of rolling-mill R depends upon their resistance to thermal fatigue and wear at high temperatures. Grade 3Kh2V8 Cr-W steel is the type best suited

to the working layer of rolling-mill R. A process has been

developed for the F of a layer of 3Kh2V8 steel involving a powder-

wire electrode of the appropriate composition in conjunction

Card 1/2 with AN-20 low-silicon flux. Local heat treatment of faced R

SOV/137-58-7-14748

Increasing the Life of Steel Rolling-mill Rolls by Automatic Facing

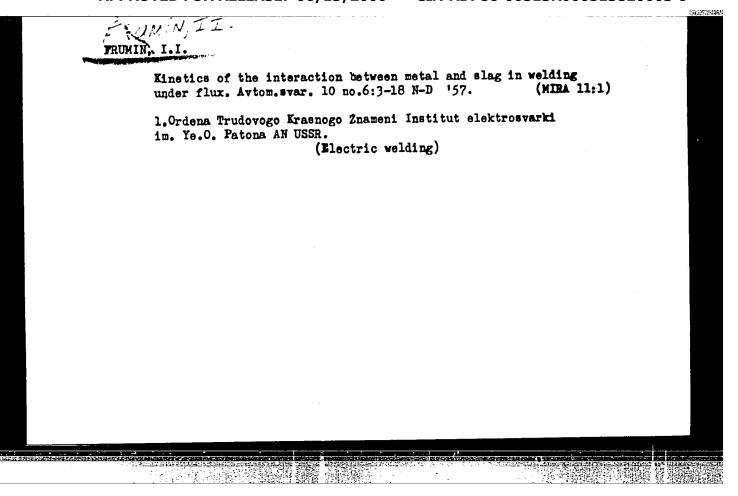
with the aid of induction heating has been developed, making it possible to obtain the desired structure and hardness. An examination is made of the technique of F a wear-resistant layer that affords good forming of the clad metal. This method employs roll-turning and universal roll-facing machines. It is shown that the F of 3Kh2V8 steel on the working surface of the R makes it possible to increase strength 8 to 10-fold over that of forged R of Nr 55 steel, 3.3-4-fold over that of hardened R of 60KhG steel, and 1.7-3-fold over heat-treated 15KhNM steel rolls. This permits a saving of 65-90% of the annual expenditures upon steel R, and a considerable increase in the output of the mills.

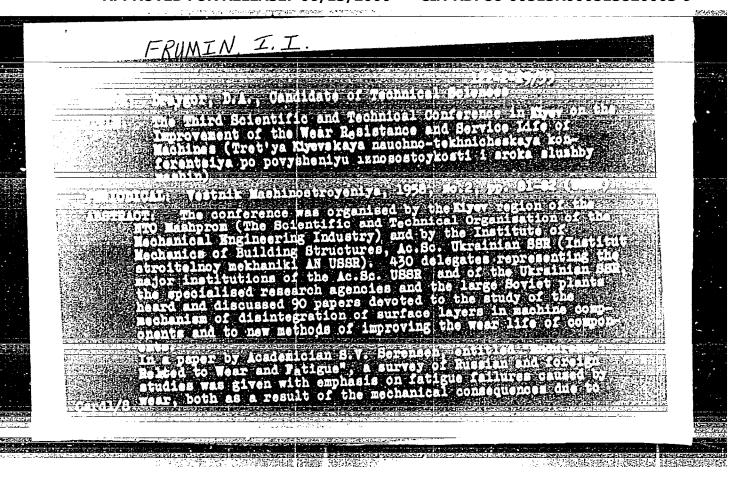
1. Rolling mills--Performance 2. Rolling mills--Equipment 3. Rolling

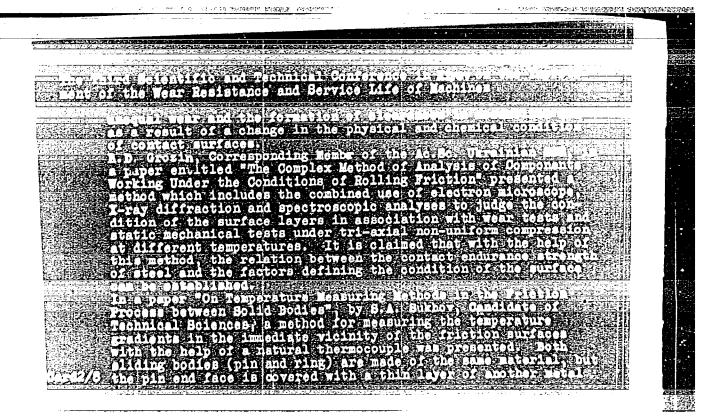
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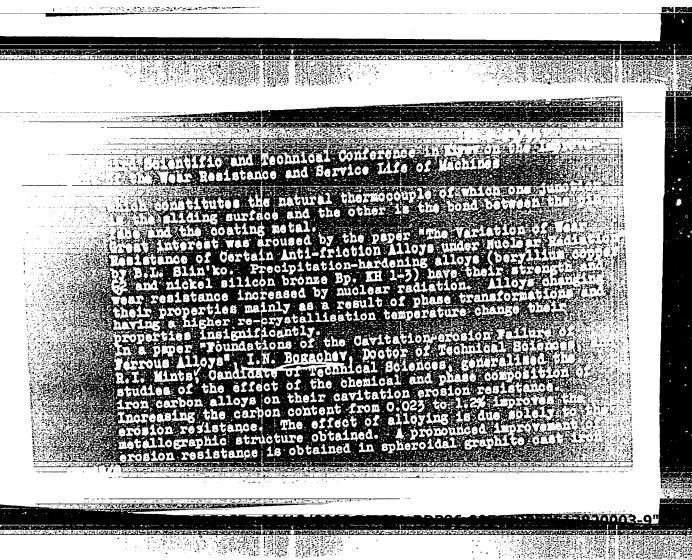
Mechanics of crystallization crack formation in welding and hard facing. Avtom. svar. 10 no.1:88-102 Ja-F '57. (MLRA 10:4) 1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki in. Ye.O. Patona AN USSR. (Electric welding) (Hard facing) (Deformation (Mechanics))

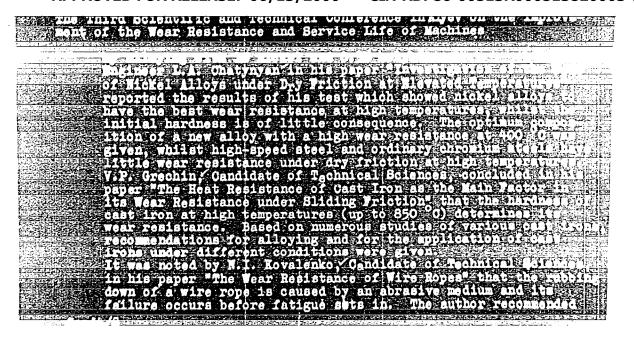
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,	Size of metal droplets carried by the arc. Avtom. svar. 64-70 8-0 57.	10 no.5: (MIRA 10:12)	
	1. Ordena Trudovogo Krasnogo Znameni Institut elektrosva Patona AN USSR. (Electric welding)	arki im. Ye.O.	

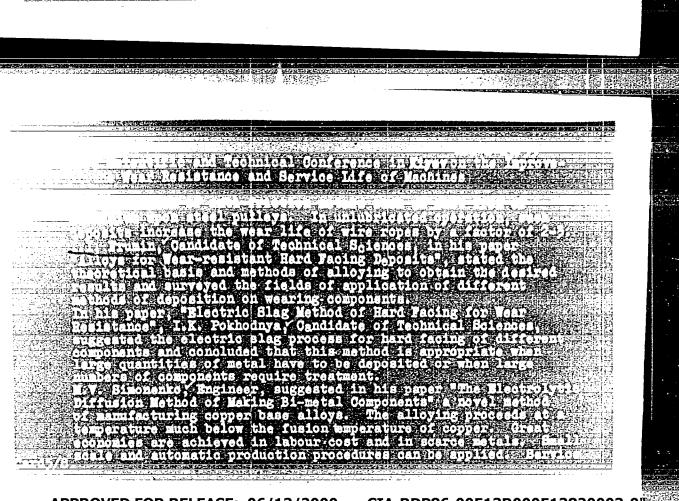


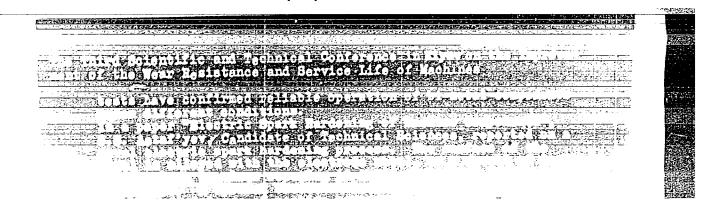












properties by enrichment With the surface. The latter methods mainly improve the anti-seizure surface. The latter methods mainly improve wear registance, properties, whilst the former improve wear registance. Sulphiding can be achieved in solid, liquid and gaseous media;

Allower Abrary of Congress

AUTHOR:

Frumin, I.I.

125-1-1/15

TITLE:

About the Attainability of Equilibrium Between Slag and Metal in Welding and Fusion (O vozmozhnosti ravnovesiya mezhdu shlakom i metallom pri svarke i naplavke)

PERIODICAL:

Avtomaticheskaya Svarka, 1958, # 1, pp 3 - 13 (USSR)

ABSTRACT:

Investigations were carried out on metal and slag compositions during welding under flux, saturated with silica. Only in one case is it known that investigations were carried out dealing with equilibrium in open arc welding. The author points to a table containing the results of 6 experiments and the initial composition and analysis results of seam metals and slags; the slag was taken from seams and metallic drops and non reacted flux was cleaned off.

Comparing tables 4 and 5, it appears that in none of the experiments equilibrium could be obtained in temperatures preceding metal hardening.

The author concludes that each welded metal part undergoes the same subsequent processes, i.e. heating, mixing with liquid slag, separation of metal and slag, cooling off and crystallization.

Card 1/ 3

Investigations of open arc welding have shown that in

125-1-1/15

About the Attainability of Equilibrium Between Slag and Metal in Welding and Fusion

many cases slag and metal compositions correspond to equilibrium at high temperatures. In other cases only a trend towards equilibrium was established. Experimental investigations of metal and slag compositions were carried out as to welding under flux containing more than 50% SiO₂ and more than 90% (SiO₂- MnO - FeO) with a different composition of the welding rod and the primary metal. Computations of the equilibrium of the composition of metals according to formulas submitted by A.D. Kramarov were carried out for acid slag saturated with silica.

Furthermore, it was established that in some cases the slag and metal composition corresponds to the equilibrium in temperatures of about 1,700°C. In the majority of cases, equilibrium was not attained. The decrease of the reaction speed in the cooling off of liquid metals causes the fixing of the compositions corresponding to high temperatures.

Thermodynamic computations allow only an approximate determination of the direction of slag-metal interaction in welding.

Card 2/3

125-1-1/17

About the Attainability of Equilibrium Between Slag and Metal in Welding and Fusion

There are 13 Russian, 5 English and 1 German references.

The Institute of Electrowelding imeni Ye.A. Paton (Institut elektrosvarki imeni Ye.O. Patona) of the Ukrainian SSR ASSOCIATION:

Academy of Sciences.

29 October, 1957 SUBMITTED:

Library of Congress AVAILABLE:

Card 3/3

FRUMIN, I. I., Doc Tech Sci (diss) -- "The metallurgical principles of an automatic wear-resistant weld seam". Kiev, 1959. 36 pp (Leningrad Polytech Inst im M. I. Kalinin), 200 copies (KL, No 23, 1959, 164)

25(1)

PHASE I BOOK EXPLOITATION

SOV/3353

Frumin, Isidor Il'ich

Avtomaticheskaya naplavka pod flyusor Automatic Flux-shielded Hard Facing) Moscow; Mashgiz, 1959. 109 p. 8,500 copies printed. (Series: Biblioteka svarshchika)

Editorial Board: A. Ye. Asnis, A.A. Kazimirov, B.I. Medovar, B.Ye. Paton (Resp. Ed.), and V.V. Podgayetskiy; Ed. of this Vol: V.V. Podgayetskiy, Candidate of Technical Sciences; Ed.: V. V. Mayevskiy; Chief Ed. (Southern Division, Mashgiz): V.K. Serdyuk, Engineer.

PURPOSE: This book is intended for welders.

COVERAGE: Modern methods of flux-shielded hard facing are briefly explained.

Techniques of hard-facing articles of various shapes are discussed. Designs of the most widely used hard-facing equipment are described. Typical applications of automatic hard facing are mentioned: restoration of worn tractor and automotive parts, increasing the wear resistance of rolling mill rolls and other metallurgical equipment, etc. There are 11 references, all Soviet.

TABLE OF CONTENTS: Card 1/3

Automatic Flux-shielded Hard Facing	S0Ý/3353
Introduction :	3
I. General Information on Flux-shielded Hard F	acing 6
1. The method in essence	
2. The submerged arc	6 8
3. Formation of the bead	11
4. Heat propagation during hard facing and	distortion of the work 17
II. Basic Data on the Process of Automatic Har	d Facing 20
5. Fluxes	20
Alloying of deposited metal	27
7. Prevention of pore formation	27 38 41
8. Prevention of crack formation	41
9. Removal of slag crust	45
10. Controlling the composition of the depos	ited metal 48
III. Methods of Hard-Facing Articles of Variou	s Shapes 52
11. Hard-facing of bodies of revolution	52
12. Hard-facing of flat parts	63
13. Hard-facing of intricately shaped articl	es 67
Card 2/	,

Automatic Flux-shielded Hard Facing SOV,	/3353
IV. Hard-Facing Equipment 14. A-409 unit for hard-facing small-diameter items	71 72
 15. A-384 unit for hard-facing medium-and large-dismeter bodi rotation and flat and shaped items 16. ORGRES unit for hard-facing flat surfaces 	75 81
17. Two-arc A-482 unit for hard-facing tire rims of locomotive railroadcar, and tender wheels	e, 84
V: Some Applications of Automatic Hard Facing 18. Reconditioning of worn tractor and automotive parts by hard facing	87 87
19. Automatic hard facing of steel rolling-mill rolls 20. Hard-facing of metallurgical equipment	95 105
Bibliography	111
AVAILABLE: Library of Congress (TK4660.F78)	•
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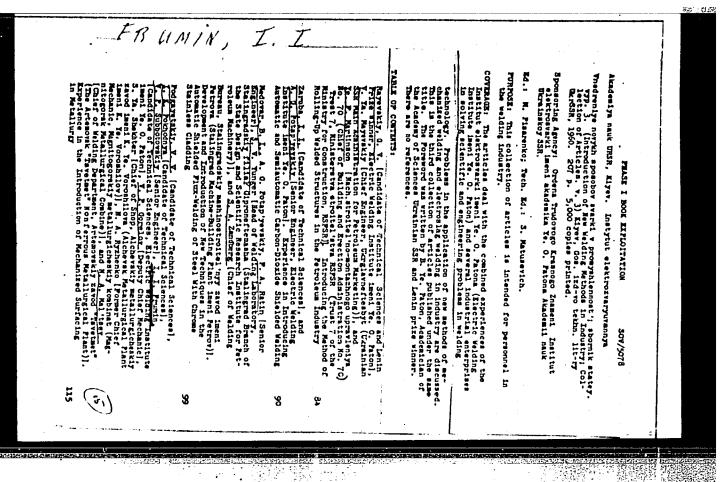
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S/137/61/000/011/056/123 A060/A101

AUTHOR:

Frumin, I.I.

TITLE:

Automatic wear-resistant build-up

PERIODICAL:

Referativnyy zhurnal, Metallurgiya, no. 11, 1961, 57, abstract 114e367 (V sb. "1-ya Sibirsk. konferentsiya po svarke, 1959",

Barnaul, 1959(1960), 53-95)

TEXT: The author considers automatic electric arc building up by the submerged process, building up in a stream of protective gas, electric pulse building up (vibro-arc, electric-spark), electric-slag building up, building up by high-frequency current, alloying of the built up metal. Measures for preventing pores and cracks in course of building up, the structure and wear-resistance of the built-up metal are described. Examples are cited of the building up techniques for certain articles: forks, bands, railway wheels, bearing rollers and tension wheels, tractor treads, connecting rods for tractor engines, rolling rolls, parts for the charging apparatus of blast furnaces, beaters of hammer crushers. Electric slag building up of cores for ingot

Card 1/2

Automatic wear resistant.....

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grippers, and the automatic building up of bronze layers is considered.

There are 15 references.

V. Tarisova

[Abstracter's note: Complete translation]

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FRUMIN, Isidor Il'ich; LEYNACHUK, Yevgeniy Ivanovich; YUZVENKO, Yuriy
Arsen'yevich; NERODENKO, Mikhail Minovich; BOBROVA, T.L., red.;
KOZLOVSKAYA, M.D., tekhn. red.; PERSON, M.N., tekhn. red.

[Principles of the technology of mechanized hard facing] Osnovy tekhnologii mekhanizirovannoi naplavki. Moskva, Vses.uchebno-pedagog.izd-vo Proftekhizdat, 1961. 303 p. (MIRA 15:1) (Hard facing)

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FRUMIN II.

PHASE I BOOK EXPLOITATION

SOV/5975

International Institute of Welding

XII kongress Mezhdunarodnogo instituta svarki, 29 iyunya - 5 iyulya 1959 v g. Opatii (Twelfth Annual Assembly of the International Institute of Welding, Opatija, June 29 - July 5, 1950) Moscow, Mashgiz, 1961. 359 p. 3000 copies printed.

Sponsoring Agency: Natsional nyy komitet SSSR po svarke.

Ed. (Title page): G. A. Maslov, Docent; Translated from English, French, and Serbo-Croatian by N. S. Aborenkova, K. N. Belyayev, E. P. Bogacheva, L. A. Borisova, K. V. Zvegintseva, V. S. Minavichev, and M. M. Shelechnik; Managing Ed. for Literature on the Hot-Working of Metals: S. Ya. Golovin, Engineer.

PURPOSE: This collection of articles is intended for welding specialists and the technical personnel of various production and repair shops.

Card 1/

Twelfth Annual Assembly (Cont.)

SOV/5975

COVERAGE: The collection contains abridged reports presented and discussed at the Twelfth Annual Assembly of the International Institute of Welding. Reports deal with problems of welding and related processes used in repair work, repair techniques, and the problems arising in connection with the nature of the base and filler materials. Examples of repairing various parts are given, and the organization of repair operations in workshops and under field conditions is discussed. Economic aspects of welding and related processes as used in repair work are analyzed. No personalities are mentioned. There are no references.

TABLE OF CONTENTS: [Only Soviet and Soviet-bloc reports are given here]

Foreword

5

PART I. THE STUDY OF REPAIR-WORK TECHNIQUES (PROCESSES, METHODS, PREPARATION, HEATING, AND OTHER TYPES OF PROCESSING CONTROL)

Myuntsner, L. (Czechoslovakia). Welding of Broken Crankshafts

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Card 2/9

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	Twelfth Annual Assembly (Cont.) Tesar, A., and Yu. Lombardin (Czecho	slovakis). Isothermal els	42		
	Paton, B. Ye., G. Z. Voloshkevich, D. Paton, B. Ye., G. M. Makara, P. I. Sev Sterenbogen, A. M. Makara, P. I. Sev Sterenbogen, A. M. Floetroslag Weldin	. A. Didko, Tu.	49		
9- <u>-</u>	Heavy Machines and Mechanisms Heavy Machines and Mechanisms Heavy Machines and Mechanisms Heavy Machines and Mechanisms	Sutman, e. I. Leynachuk,	60		
	and F. A. Khomus'ko (USSK). Auto-	- Was-Mill Rolls, Crane	72		
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PHASE I BOOK EXPLOITATION

SOV/5217

Frumin, Isidor Il'ich

- Avtomaticheskaya elektrodugovaya naplavka (Automatic Electric-Arc Surfacing)
 Khar'kov, Metallurgizdat, 1961. 421 p. Errata slip inserted. 5,000 copies
 printed.
- Resp. Ed.: V.K. Petrichenko; Ed. of Publishing House: S.S. Liberman; Tech. Ed.: S.P. Andreyev.
- PURPOSE: This book is intended for engineers and technicians concerned with problems of metal surfacing. It may also be useful to scientific research workers and students at schools of higher education.
- COVERAGE: Theoretical and practical bases of the automatic surfacing of metals are reviewed along with the results of experience gained in its industrial application. Also discussed are general metallurgical problems of welding and surfacing, the possibility of obtaining a given chemical composition of the deposited metal, conditions of the formation of gas pockets and hot cracks, and methods for the prevention of these formations. Materials used

Card 1/83